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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,547	12/31/2001	Allan Scherr	E30-050CON2	4626

7590

12/30/2003

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EXAMINER

GOSSAGE, GLENN A

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 12/30/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/036,547		SCHERR, ALLAN	
	Examiner		Art Unit	
	Glenn Gossage		2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 20 October 2003.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 18, 20-28 and 30-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 18, 20-28 and 30-32 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

1. The proposed substitute drawings originally filed October 20, 2003 have been approved by the Examiner, subject to drafting review, except for the objections outlined below.

The drawings remain objected to because in Figure 2b (as filed 10-20-03), within steps 24b and 24d, "PROCESSING FOR" should be changed to --PROCESSING FOR FORMS-- and --PROCESSING FOR SECURITY--, respectively (the words "FORMS" and "SECURITY" were omitted in the newly submitted drawings).

Also, in Figure 1c (as filed 10-20-03), "MEMORY DEVICE 10" should be changed to --MANAGEMENT SYSTEM 10--, and "DEVICE 12" should be changed to --MANAGER 12-- for clarity and consistency.

In Figure 4, within "box" 30a, "RETREIVE" should be --RETRIEVE--.

Applicant is REQUIRED to submit a proposed drawing correction in reply to this Office action. However, submission of corrected drawings can be deferred until the application is allowed by the examiner, but corrected drawings should be filed as earlier as possible to prevent prosecution delays. Also note MPEP 608.02(r) and (v).

Appropriate correction is required.

2. It is once again noted that the disclosure has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the disclosure. The following objections are specifically noted:

In the specification:

On page 9, between lines 14 and 15 (of the substitute specification filed November 18, 2002), a brief description of Figure 1c should be added (note the amended paragraph beginning on page 33, line 9).

In the amended paragraph beginning on page 12, line 4, at line 1 of the amended paragraph, it appears “an” reads more clearly as --one--. In line 3 of the paragraph, it appears “method” should be deleted (note line 4 of the paragraph, e.g.). In line 8 of the paragraph, it appears -- (RAID)-- should be inserted after “disks” for clarity. In line 10 of the paragraph, it appears “as a cache memory device” should be deleted for clarity and consistency with the disclosure as originally filed and to avoid possible questions of new matter. In line 14 of the amended paragraph, it appears “1a” should be --1b--.

On page 13, line 13 (of the substitute specification filed November 18, 2002), it appears “cache management method or a” should be changed (back) to simply -or-- for clarity and consistency with the disclosure as originally filed and to avoid possible questions of new matter.

In the amended paragraph beginning on page 18, line 3, at line 5 of the amended paragraph, it appears “acts” should be changed to -- , which acts as a selector means--, and “and is” in line 6 of the paragraph changed to -- , is-- for clarity and consistency with the disclosure as originally filed and to avoid possible questions of new matter. Also, “blocks,” in line 6 should be changed to simply --blocks--.

Applicant’s continued cooperation in making amendments to place the specification in proper form is recognized and appreciated. Applicant may consider filing a substitute specification

including all changes made to date and any new changes, in order to avoid possible issue review and printing errors or delays, given the number and nature of the changes necessary to place the specification in proper form.

In the claims:

In claim 18, line 9, “network,---” should be simply --network, --.

In claim 20, line 3, it appears --at-- should be inserted after “operations” for clarity.

In claim 32, line 2, it appears “management” should be --manager-- for clarity and consistency (see claim 18, line 15, e.g.).

Appropriate correction is required.

3. Claims 18, 20-28 and 30-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 18, and therefore its dependent claims, the language “In a data network ... , wherein each ... cache management system ... at a data node comprises” is unclear as it is not sufficiently clear what is being claimed here (a data network? A data node? A cache management system?). It is also not adequately clear how “at least two” data nodes include a cache management system (support for language in the specification?). The proper antecedent for “said data node” throughout the claims is also not clear. [While the Examiner recognizes the presence of a “data node” in the claims (at claim 18, lines 6-7, e.g.), confusion arises because there are plural data nodes set forth in the claim (see the plural “data nodes” in claim 1, lines 3

and 4-5, by way of example only). When plural elements (such as data nodes) are set forth in a claim, a reference back to a singular element (data node) is confusing (to which of the plural “data nodes” is being referred by “said data node?”). The proper antecedent for “said cache memory device” is also somewhat unclear since there are plural data nodes, each having a cache memory, set forth in the claims.

Initially, it appears “In” in line 2 should be changed to --A cache management system in--, and “and each ... data node comprises” in lines 6-7 changed to --each cache management system comprising--, for clarity and consistency with the language of the disclosure, and so that it is clear what is being claimed. Also, in line 5, it appears “ of ... including” in lines 4-5 should be changed to --data node is coupled to a corresponding-- or other similar language for clarity. Additionally, it appears “said data node” in lines 12-13 should be changed to --a corresponding one of said data nodes--, and “data node” in lines 19 and 23 changed to --one of said data nodes-- for clarity (to avoid possible antecedent problems, e.g.). Also, “said” in line 15, as well as claims 20-21, line 3, should be changed to --a corresponding-- for clarity. In lines 15-18, it is not entirely clear how the cache memory manager “(controls) network communications.” It appears “control network communications” in line 18 should be changed to --manage the cache memory device-- for clarity.

In claims 20 and 21, and therefore its dependent claims, as well as claims 31 and 32, the proper antecedent for “said method selection means” is not clear (note the cancellation of claim 19).

In claims 31-32, the proper antecedent for "said data node" is unclear analogous to claims 18, 20 and 21. It appears "said" in claim 31, line 4 (first occurrence) and claim 32, line 6 should be changed to --a corresponding-- for clarity.

In this regard, applicant's arguments filed October 20, 2003 have been considered but are not persuasive.

Again, while the response expresses an intent to claim a single data node (response at page 15), this is not at all clear from the claim language, which sets forth "In a network ... a cache management system ... (which) comprises," and a potential infringer is not fairly apprised of what constitutes literal infringement. It is believed the changes suggested by the examiner significantly improve the clarity of the claim language without substantially affecting the claim's intended meaning and scope.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claim 18, insofar as definite and clear, is rejected under 35 U.S.C. 102(b) as being anticipated by Willick et al or Korner, each taken separately.

With respect to claim 18, Willick et al or Korner, each taken separately, discloses a data network including a plurality of interconnected data “nodes” for transferring data therebetween, each data “node” including a cache memory device connected to the data network, and a cache memory “management system” or controller connected to a respective cache memory device for controlling that cache memory device, as in the present invention.

Each of the cache memory managers or controllers is coupled to the data network and controls or transfers data using one of at least two cache memory management methods such as methods using simple LRU (or MRU) techniques, prefetching or preloading and frequency/usage based replacement (FBR) methods. The cache memory management method used or “selected” at a first site (a client workstation, e.g.) may be different than the cache management method used or selected at a second site (a server, e.g.). See pages 2-4 and 7-9 of Willick et al, and pages 220-221, 223 and 225-226 of Korner, e.g.

By storing different parameters to be used in making different cache management or replacement decisions, the references may be considered to “store” different cache management algorithms or “methods.” In this manner, different cache management algorithms or methods from all available cache management algorithms may be “selected” for different sites, i.e. a combination of different cache algorithms may be used to achieve optimum cache access efficiency and thus a higher operating speed. The systems may also monitor the performance of the cache management method currently being used or selected and adjustments may be made so

as to further optimize cache management, i.e. different cache parameters, and thus a different cache management method, may be “selected” in order to optimize operation of the cache.

By way of example only, an LRU cache management algorithm or method, which may be selected from a plurality of cache management algorithms or methods, may be “selected” to optimize cache access efficiency at a particular network site (a workstation) and thus increase the operating speed. A user may thus configure and select the type of cache management algorithm to be used, which allows a user at a site in a network to address a particular need in an optimum way while, at the same time, allowing other network sites, such as a file server or content provider, to employ their own respective methods or solutions (selectively using MRU, preloading and read-ahead techniques, e.g.) to similarly address their own needs. This allows a user to optimize his or her site’s data usage need in an optimum manner without impacting other network sites.

5. Applicant’s arguments filed October 20, 2003 have been considered.

The argument that the references teach using the same caching algorithm at each and every node in a data network is not persuasive because the examiner maintains that the servers and workstations discussed can optimize caching for that site or data node, not for some other server or workstation. Willick et al, for example, teaches that while an LRU policy may work well on a workstation “nodes,” LRU would be inappropriate at a server (see the abstract of Willick et al, e.g.). Thus, Willick clearly does not teach that the same algorithm must be used at each and every node in a network as argued in the response. The cache memory management method used or “selected” at a first site (a client workstation, e.g.) may be different than the cache

management method used or selected at a second site (a server, e.g.). Again, see page 2, as well as page 4, column 1, and pages 7-9 of Willick et al, and pages 220-221, 223 and 225-226 of Korner, e.g.

The argument that claim 18 “defines a data node for use in a network in which the replacement algorithm can be switched at a global level” (response at page 18) is not persuasive since this argument is not commensurate in scope with the claim language. Claim 18 does not recite any replacement algorithm, only broadly reciting cache “management methods,” which may include prefetching, a charging caching management method, etc. and are clearly not limited to replacement algorithms. Claim 18 also does not recite that the management methods may be “switched at a global level” as argued in the response (at page 18), nor do the claims recite “the ability to change the algorithm dynamically” as argued at pages 18-19 of the response, only that at least two methods are stored and that one is selected for use.

Moreover, the references would appear to teach dynamically selecting or choosing which algorithm or strategy to use for different “classes” of blocks depending upon anticipated patterns (see page 4, column 2 of Willick et al, e.g.), and thus the selection of the algorithm is dynamic and not static. Similarly, Korner teaches recognizing when certain data access patterns are in effect and modifying caching strategies accordingly (see page 221, column 1 and page 223, column 2, e.g.). Different cache management methods or policies are selected based on anticipated access patterns, which selection may be done dynamically based on different data sets (sequentially accessed file blocks use an MRU replacement algorithm or policy, while randomly accessed file blocks use an LRU replacement algorithm, e.g.), as well as other factors such as cache sizes. The broad claim language is thus deemed to be met.

The response also does not address the examiner's contention that the claims as broadly written would "read on" "data nodes" or users on their home personal computers (PCs) connected to the Internet, which PCs include a cache memory device (the hard drive may cache Web pages, e.g.) and a cache memory "manager." Users may optimize caching at their site or computer by disabling caching or setting a cache size to zero, adjusting the cache size in a browser such as Netscape or Internet Explorer, and using a cache "manager" to select which "method" or parameters to use. The claims as broadly written would appear to read on such a users' PC or "data node."

6. Claim 30, and claims 31-32 dependent therefrom, insofar as definite and clear, would appear to be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Note that due to the number and nature of the 35 U.S.C. 112, second paragraph, issues outlined above, no prior art is being applied against amended claims 20-21 and its dependent claims 22-28, and the subject matter therein not indicated as allowable, since the Examiner cannot ascertain, with a reasonable degree of certainty, the intended meaning and scope of the claims. In this regard, see In re Steele, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), as well as MPEP 2173.03 and 2173.06.

In the instant case, the Examiner cannot ascertain, with a reasonable degree of certainty, how to interpret the claimed "(said) method selection means" set forth in claims 20-21 and 31-32. This limitation ("method selecting "means") was deleted or cancelled in the previous response

and the term currently has no antecedent basis in the claims. Note also that claims 20 and 21 originally included this "method selection means" in addition to a "monitoring means," but claims 20 and 21 as amended no longer include these claimed "means" (the various "means" having been previously read or interpreted in light of the disclosure in accordance with 35 U.S.C. 112, sixth paragraph and *In re Donaldson Company, Inc.*, 29 USPQ 2nd 1845 (Fed. Cir. 1994)), and thus the scope of claims 20-21 has changed due to the amendments made in the most recent response. [Should language such as --and including a method selection means-- be inserted after "device" in claim 18, line 16? Should claims 20-21 and 31-32 be amended to delete references to this element?] Given the somewhat protracted nature of the prosecution history of this application, applicant's attorney is encouraged to telephone the Examiner to discuss possible changes to the claims in order to expedite prosecution of the application to allowance or appeal.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Gossage whose telephone number is (703) 305-3820.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks, can be reached on (703) 308-1756.

The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238


(After Final Communications)

(703) 746-7239

(Official Communications)

(703) 746-5713

(Use this FAX number only after approval by the Examiner, for "INFORMAL" or "DRAFT" communications. An Examiner may request that a formal paper/amendment be faxed directly to him or her on occasion.)


GLENN GOSSAGE
PRIMARY EXAMINER
ART UNIT 2187